



VAN GOGH - THE STARRY NIGHT



PARIS, FRANCE
EMEA

A new digital exhibition offers a spectacular immersive audiovisual experience with the paintings of Vincent Van Gogh, high resolution projection and innovative sound technology.

One of the most innovative, artistic experiences in the city of Paris is currently hidden behind the unremarkable façade of a former ironworks foundry in the 11th arrondissement. Inside this huge 19th Century space, one of France's leading cultural producers, Culturespaces has been so successful with its digital experience of the art of painter, Gustav Klimt that it has opened a new exhibition dedicated to Vincent Van Gogh. 'Van Gogh - The Starry Night' is a visual and musical creation realised by Gianfranco Iannuzzi, Renato Gatto and Massimiliano Siccardi. In the same presentation is a short programme by Danny Rose dedicated to the imagery of Japan. Both use the AMIEX technology (Art and Music Immersive Experience) developed by Culturespaces in 2012.

The AMIEX concept is based on the virtualisation and high-resolution projection of works of art on immense surfaces, and delivers projection mapping at its best. French audiovisual specialist, Cadmos was chosen as the integrator for the project, designing and installing high-performance technology to show the portraits and landscapes of Van Gogh on 35,000 sq ft



of projection surface, over walls that can reach up to 12-metres high. The Halle de l'Atelier is an already complex space of angles and divisions - the designers have expanded it to 360° across all four walls, the floor, and extra surfaces like a floor-to-ceiling cylinder (the foundry's former chimney), which houses a circular display area.

NEXO engineers worked with Cadmos to perfect the immersive audio design delivered by NEXO ID Series loudspeakers hidden in the metal truss work overhead. These super-compact cabinets, just 300mm wide, offer 120° by 60° high frequency coverage, and are mounted both horizontally and vertically. A total of 29 ID24 loudspeakers are used in the main room, supplemented by 11 ID S110 10-inch subwoofers, another four ID24 loudspeakers and an S110 subwoofer are used in a smaller salon, with a wrap-around screen. In total, 11 NEXO NXAMP4x1 amplifiers are used to power the systems.

Loudspeaker locations are evenly spaced throughout the warehouse venue in order to get homogenous and consistent SPL coverage, without having to play each cabinet loud. Cabinets in the central row are delayed to those on the walls, so

stereo is crossed.

A total of 140 Barco 6,500-lumen high definition laser projectors in the 40ft high ceiling deliver the visuals.

A powerful media server solution by Modulo Pi, in the form of 35 units of Modulo Kinetic were used for show-encoding, mapping and show control. Modulo Pi, previously worked with Culturespaces on the launch of its first digital exhibition, at the Carrières de Lumières, a former white limestone quarry, in 2012 - a relationship that continues to this day. NEXO and Barco products can also be found at Carrières de Lumières, powering the Van Gogh exhibition.

Each year the venue closes for several weeks to carry out full maintenance of its audiovisual equipment. This period is also used for programming new exhibitions for the upcoming season.

"The humidity rate in the quarry reaches up to 99%. Combined with dust, it creates a thin layer covering the projectors' lenses and entering fans, so once a year all systems are dismantled and undergo a thorough cleaning." Sébastien Chapuis, Technical Director at the Carrières de Lumières explained.

During this year's closure, The Carrières de Lumières updated its system with Modulo Kinetic, the media server solution by Modulo Pi, which is now at the heart of each AMIEX venue (Atelier des Lumières and Bunker de Lumières in South Korea). The integration of a further 28 Modulo Kinetic media servers and the encoding of the 2019 immersive exhibitions added to the delicate annual maintenance work. "Installing the systems was easy. Those are big networked servers," said Sébastien. "However, due to the one-month period dedicated to maintaining the rest of the audiovisual system, we had little time left to do the warping process on new software. The whole team quickly familiarised themselves with Modulo Kinetic and made this new device its own."

Before the Modulo Pi media servers were physically installed, the study and simulation phase for all new exhibitions were made in Modulo Kinetic Designer, the workstation dedicated to Modulo Kinetic's software. "We 3D scanned the quarry and ended up with a point cloud. It was simplified and then imported into Modulo Kinetic," explained Sébastien. "Thanks to this 3D model, we could anticipate and work on



TECHNICAL INFORMATION

SOUND

33 x NEXO ID24 loudspeaker; 12 x NEXO ID S110 subwoofer; 11 x NEXO NXAMP4X1 amplifier

VIDEO

140 x Barco 6,500 HD laser projector; 63 x Modulo Pi Modulo Kinetic media server

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warping directly in 3D.
“Nothing is straight in the venue, we have volumes from six-metres to 25-metres high with many imperfections on each screen. Working with the XMap function was very useful, especially for the most distorted screens. After the 97 projectors were maintained and re-installed, we realised that the media positioning and warping was already pretty good. The other advantage is that several members of the team can work simultaneously on

the warping, so that saved us a lot of time.”
The team took advantage of Modulo Kinetic’s show control capabilities to simplify their control room. “Everything is included within the same software, which is very convenient. That way, we don’t have to deal with a bunch of interfaces that need to communicate,” Sébastien said.
A series of control panels were created in the programme to easily power on, power off, and control the video-projectors brightness. The

GraphEditor panel embedded in Modulo Kinetic was utilised to automate the sequences of shows, and times between shows.
Sébastien concluded: “We are running two exhibition programmes and have different opening hours over the year. In UI Designer, we could create custom panels to easily deal with that. We can automatically sequence shows, calculate the time of lights between them, and add other show programmes, such as retrospectives, on demand.” ^{dr}

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OUTDOOR VARI-WHITE LIGHTING ESSENTIAL

- UNIQUE BRACKET DESIGN
- TOURING-READY HOUSING
- VARI-WHITE (2700K - 6500K)
- IP65 RATING
- ULTRA-SILENT
- RDM READY
- 15° BEAM ANGLE



HERA

OUTDOOR RGBWAUV LIGHTING ESSENTIAL

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- TOURING-READY HOUSING
- RGBWAUV COLOR MIXING
- IP65 RATING
- ULTRA-SILENT
- RDM READY
- 30° BEAM ANGLE